

Residential Energy Forum

San Luis Obispo
September 23, 2010





What is Whole Home Performance?

The collective energy efficiency measures that work together to make a home or building a complete and energy efficient system, and by following a general loading order, the results far surpass performing individual measures alone.

For more information visit

energystar.gov/homeperformance **or** cbpca.org.

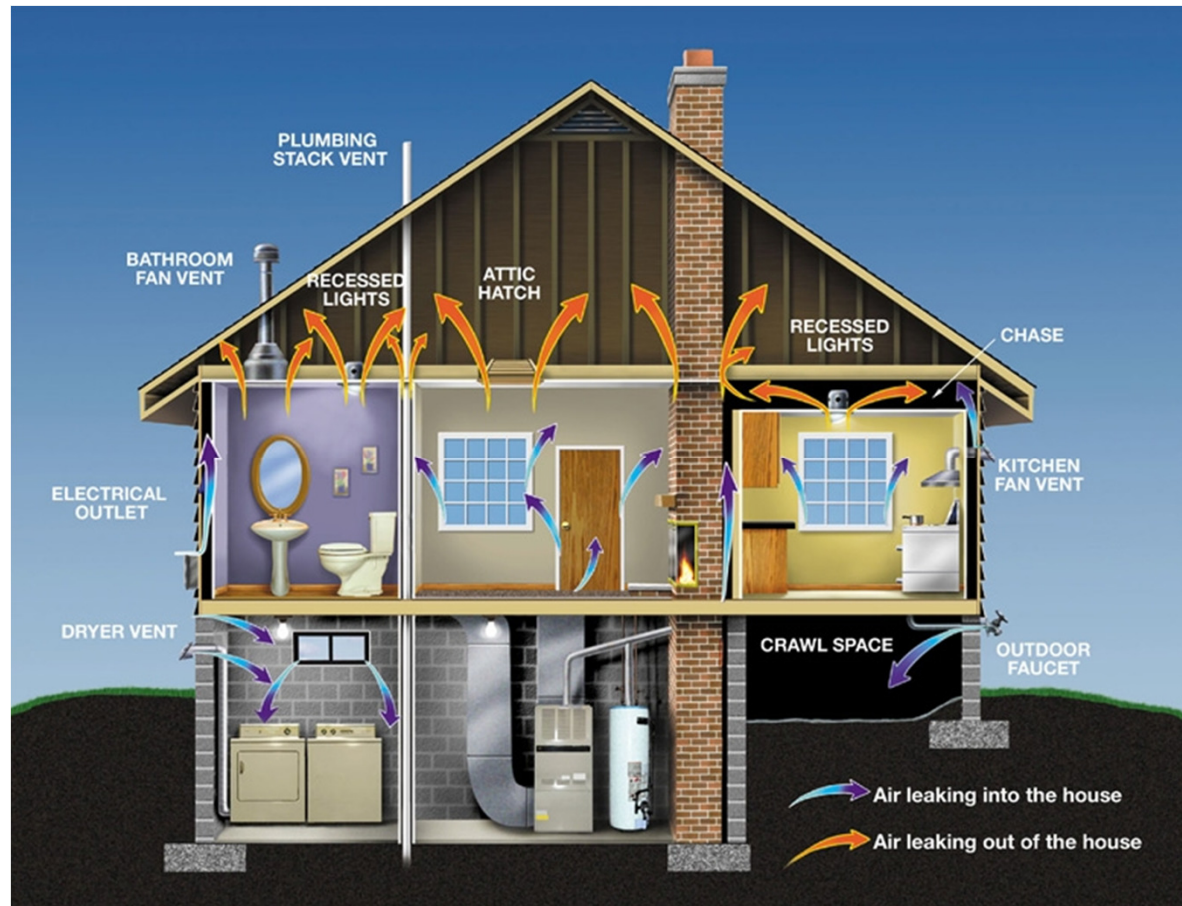


Whole House

Comprehensive home retrofits following proper loading order:

- Air sealing (tighten envelope)
- Insulation (thermal boundary)
- Proper sizing, design and installation of HVAC systems
- Proper sizing, design and installation of insulation of the hot water system
- Efficient lighting, appliances and demand response
- Renewable energy and self generation

Common House Leaks





Energy Upgrade California

Through the Energy Upgrade California Program, Federal, State and local utilities offer incentives that make energy-saving house projects affordable.

- Bring California residence along the smart energy journey.
- Provides solutions to overcome participation barriers with rebates/incentives, financing, education/awareness and contractor training.
- Customers and contractors are encouraged to approach the house as a collective savings opportunity rather than a group of individual systems.



California Residential Retrofits

Statewide Goal:

- Achieve 20% energy savings in 130,000 homes by end of 2012

PG&E Goal:

- Achieve 20% average energy savings in 15,500-23,000 homes by end of 2012
- Provide Contractor Training Courses across service territory
- Drive contractors to home performance industry and BPI Accreditation

PG&E Program Structure



Basic (Prescriptive)

- Focus on building shell
- No diagnostic audit required
- “On ramp” for home performance contractors

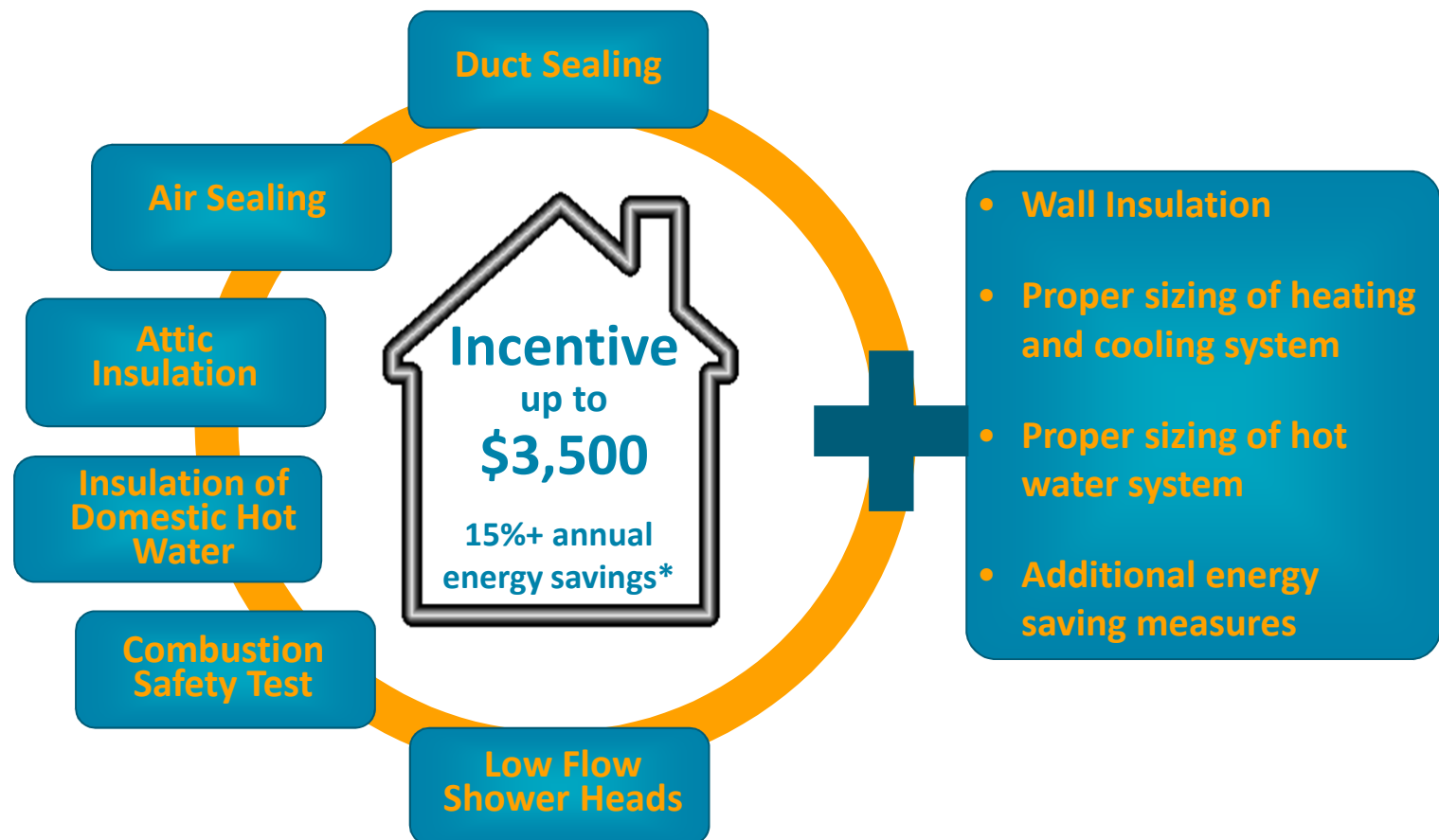
Advanced (Performance)

- Requires diagnostic audit
- Comprehensive scope of work
- Larger incentives and savings

Basic Measures – PG&E Pilot



Advanced Package – PG&E Pilot



*Based on Pilot Program, levels may change



Advanced Package

List of possible measures include, but are not limited to the following:

- Air Sealing
- Insulation (attic, wall & floor)
- Duct Testing & Sealing
- Refrigerant Charge & Airflow
- HVAC Equipment Retrofits/Replacements
- Cool Roofs
- Low Flo Showerheads
- Water Heating Systems (includes solar & tankless)
- Windows & Doors
- Hardwired Lighting (Interior & Exterior)
- Major Appliances (Clothes Washers, Refrigerators, Dishwashers, etc.)



Contractor Requirements

Including but not limited to:

- CSLB License in the Appropriate Category
- Bonding, Insurance and in Good Standing
- A Contractor Participation Agreement
- Completion of Program Orientation Course
- Safety test performed by BPI Building Analyst (Combustion Safety & Carbon Monoxide Protection)
- BPI Certified person on staff at each location (Performance Program). Accreditation recommended.
- Training and proven ability to operate HERS II Software (or compliant) to generate comprehensive work scopes and recommendations (Performance Program)



Contractor Perspective

- Provide program marketing collateral
 - Whole House Fact Sheets and customer handouts
 - Website (PG&E and EUC)
- Integration among IOUs and Local Governments
 - Coordinated contractor requirements
 - Same program structure statewide
- Coordinated workforce education and training efforts
 - Building science overview courses
 - Program Training Courses
- Quality assurance and quality control
 - In-field Inspections and Mentoring
 - Inspections (pre and post)
 - Customer Satisfaction Surveys



Customer Benefits

- **Coordinated messages from PG&E, local government, and contractors**
- **Benefits:**
 - Increased comfort
 - Lower utility bills
 - Energy savings
- **A customer rebate check from PG&E**
 - Split incentive in 21 PG&E/SoCal Gas shared cities
- **Quality assurance**
- **Combustion safety testing**

Savings*		Rebate*
Basic		\$1,000
A d v a n c e d	15-19.9%	\$1,500
	20-24.9%	\$2,000
	25-29.9%	\$2,375
	30-35%	\$2,750
	35-40%	\$3,125
	40% +	\$3,500

*Based on Pilot Program, levels may change



Customer Eligibility

Eligibility:

- PG&E gas and/or electric customer
- Single family residential customer
- Work performed by participating contractor(s)
- Meet all program specifications and guidelines

Best Candidates for Participation:

- Customers with the ability to reduce energy usage, through prescriptive or comprehensive retrofit, by at least 15%*

*Based on Pilot Program, levels may change



Workforce Education and Training (WE&T)

Specific workforce development efforts supporting prescriptive and performance programs include the following:

- Program/PG&E based prescriptive path training
 - Air sealing
 - Duct test and seal
 - Wrapping hot water heater and pipes
- CEC/EDD: California Clean Energy Workforce Training Program and other community college programs
- ARRA funded grants for training (BPI, HERS)



Current Status

PG&E Launches Pilot August 2010

- Available to any PG&E single family customer
- 500 home target
- Focus on collecting data and testing field methods
- Implemented by California Building Performance Contractors Association (CBPCA)
 - Visit the website at www.cbPCA.org
 - Or call toll free at 1 (888) 352-2722

Full Program Set to Launch Fall 2010

- Available to any PG&E single family customer. Will include multi-family in late 2011
- Visit energyupgradecalifornia.org for statewide program details
- Runs through the end of 2012
- Implementer TBD

Thank You

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Advanced Package

List of possible measures include, but are not limited to the following:

- Basic Package, plus
- Wall and Floor Insulation
- Distribution System
- Heating Equipment
- Cooling Equipment
- Variable Speed Motor Air Handlers
- Pool Pumps
- Low Flow Shower Heads
- Crawl Space Insulation
- Radiant Barriers
- Refrigerant Charge and Airflow
- Energy Efficient Windows
- Cool Roofs
- And more...